A Step-by-Step Guide for How To Prepare A Future Land Use Map

The Future Land Use Map represents a blueprint for future growth and reflects both existing patterns of land use as well as the desired use of land. It also represents the future demand for land based upon past trends and projections. In short, it is a prescription for future growth, as well as a guide to land use consistency and change.

How to Prepare the Map

Follow the Step-by-Step Guide How To Prepare an Existing Land Use Map. The major difference between the Existing and Future Land Use Map should be the land use categories.

Land Use Categories

Generally the land use categories you utilize on your future land use map should match as closely as possible to the categories shown on your existing land use map. However, in the real world this is not always possible and in practice it is not always advisable to show the future use of each and every parcel of land within your community.

As a result, you will find that the larger your community, your land use categories will tend to be broader and less defined. Large urban areas and regional land use maps tend to show large and generalized areas where residential, commercial, and industrial uses may be acceptable. These maps commonly include a good deal of resource data (floodplains, prime farmlands, sensitive environmental areas) as a guide where development should generally be avoided.

The smaller your community, perhaps more specific land use categories are needed. For example, in smaller communities the land areas desired for future residential use should indicate both the land use and density. The map can also differentiate between traditional single-family, multi-family, and perhaps manufactured homes. It could also show the difference between light or moderate industry and commercial activities which have a wide range of use intensities.

The following land use categories can be used as examples to complete your future land use map. It is important to point out that the land use categories you show on your future land use map should agree with your community's preferred development scheme and the with the vision statements and the land use principles of your master plan.

Land Use Categories for Large Towns & Cities:

If your master plan utilizes an urban growth area boundary concept to promote cost efficiencies in the provision of urban services, such as water and sewer services (for more information about this concept see the Chapter 11, Planning Concepts and Themes), you can delineate an Urban Growth Area and divide your community into a Primary Growth Area, a Secondary Growth Area, and a Rural Area. These broad categories would allow

your community to guide growth and development to those areas where existing services are available and then to those areas where the expansion of these services would be cost effective and efficient to the community.

Urban Growth Area – would include that portion of your town or city which can be expected to develop at an urban level of density over a specified number of years. The urban growth area would include both primary and secondary growth areas.

Primary Growth Area – is that portion of the urban growth area where urban level services and facilities are already in place or can be provided most cost effectively. This is the area where near term growth and development is to be especially encouraged.

Secondary Growth Area – is that portion of the urban growth area where urban level services can be provided by the municipality, but on a lower priority basis than the primary growth area. In other words, costs for the provision of services would be more expensive than in the Primary Growth Area.

Rural Area – that portion of the municipality that is influenced by urban growth forces, but within which urban level development should be discouraged within a specified time period due to the lack or provision of urban level services.

The above framework offers a large town or city, a generalized strategic growth plan for guiding future development. However, to apply this concept it is necessary to define what urban level services consist of and what urban level development means within your community. Another generalized approach is to identify broad and general areas of Preferred Residential, Non-Residential and Conservation.

Preferred Residential – consists of areas in which both single and multi-family housing are recommended. There is no concern about density or mixing residential land use under this approach.

Non Residential – consists of areas where residential development is not desired except for some infill development of existing lots. This category includes all commercial, industrial and other non-residential uses and again there would be no concern about mixing these uses together.

Conservation – includes areas where constraints such as steep slopes and wetlands exist. The category is designed to promote the protection of natural resources and guide development away from natural hazards. It could also be used to promote uses found in your community's rural zoning districts.

Another basic approach is to simply designate areas of **Existing Development**, including residential, commercial and industrial, and then designate areas of **Future Development**. This is a common approach if your community is concerned about designating specific land use categories on your future land use map.

Land Use Categories for Small Towns & Cities:

For most small towns and cities, it might be more effective to utilize traditional categories such as the following:

Resource Protection or Conservation – includes those lands used for forestry, mineral extraction, or agriculture, which require special conservation measures. This category could also include those land areas identified on your map of Environmentally Sensitive Areas.

Open Space/Recreation – includes land areas already identified as public or municipal-owned lands, conservation areas, town forests, privately owned conservation easements, and public recreational areas and facilities. Most of this information has already been mapped as part of your basic natural resource inventory.

Rural Residential – consists of existing and proposed single-family residential uses on two (2) or more acres of land. You should be able to cross reference this category with your zoning districts

Low Density Residential – includes all existing and proposed single-family housing generally on lots of 1-2 acres in size. Again this category should be reflected in your existing zoning districts. You can also include a maximum density to cross reference to your community's zoning district.

Medium Density Residential – generally includes all existing and proposed house lots of _ to 1 acre in size. Again you should be able to cross reference this category with your existing zoning districts and include a maximum density.

High Density Residential – consists of all existing and proposed multi-family developments greater than 3 units per dwelling. This category should be reflected in your existing zoning districts and it should include a maximum density.

General Office/Commercial – includes all existing and desired commercial areas generally located downtown or around the immediate downtown area.

Highway Commercial – includes all existing and desired commercial areas located immediately adjacent to existing streets and highways. These areas can also occur as nodes around existing and proposed new intersections.

Downtown or Village/Mixed Use – generally incorporates much of the current town center and areas proposed for expansion.

Industrial – includes all existing industrial areas, industrial parks and desired future industrial areas.

Community Facilities – this category might include all existing facilities, such as town-owned buildings, schools and proposed new facilities.

As with most land use classifications, the range of uses can be quite variable. The categories you use for your master plan should be designed to reflect your community's local characteristics. In addition, they should tie together all of the chapters and land use principles of your master plan to give an overall picture of your community now and in the future. The future land use map should be one of the last tasks completed in the development of your master plan.

Future Demand for Land

There is another important part of preparing your future land use map. The data and projections prepared as part of your community assessment and studies of population, economic activity and housing should be closely examined to estimate the future need for land over the planning horizon of your master plan. This is a difficult task even for professional planners. For most master plans, the future demand for housing and public facilities is based on past trends and population projections. If you have prepared population and dwelling units projections as recommended as part of your community assessment, the next step is to translate these estimates into land requirements for future building purposes.

A simple approach is to assume that a house, along with the necessary easements and rights-of-way, will require approximately one-half of an acre of land. Be aware that the average amount of land required for one new dwelling unit can vary tremendously. The nationwide trend is smaller lots, fewer easements, and narrower streets; though this trend has not significantly affected more rural areas. Lot prices and land preparation costs are significantly lower in rural areas than in urban areas. Lack of public water and sewer, and even the perceived need for more space, means that rural housing lots frequently begin at two units per acre and range upward to four or five acres per unit.

Even rapidly growing suburban communities that were once small towns allow some subdivisions to develop without public sewers. A reasonable assumption for the minimum space required to treat sewerage on an individual lot is one acre per house. It is important, however, that you check with local and state officials regarding the minimum lot sizes required for on-site sewage treatment. A minimum of two acres is even better, given the likelihood of having to move a leach field sometime during the life of the septic system. Also, if an on-site well is used to provide water, the greater distance between the well and the septic tank system the better.

Land required for public spaces (such as parks and recreation), governmental institutions, schools, or for the expansion of public facilities (including solid waste facilities and transfer stations) should be added to the total demand for land. The best sources of most of this information are your local public officials and the local engineers or consulting engineers who design and plan public facilities within your community. School district officials, using national and state standards, will be able to supply estimates of the total

land needed for future additions and improvements. Likewise, national recreational standards are available from the National Recreation and Park Association (NRPA) and statewide standards can be obtained from the 2003 SCORP and 1995 Guide to Municipal Recreation from OEP which are available online at http://state.nh.us/osp/recreation/NHSCORP.htm. It is important to remember however that the best standards are those that are developed locally.

Estimating the future demand of commercial and industrial land is somewhat more difficult. Towns located near large cities have a definite advantage in estimating the amount of land needed for future commercial and industrial growth. Employment forecasts and market expansion estimates are commonly available and are reasonable indicators of future land requirements. But most small communities and rural areas exhibit a rather slow change and low demand for new commercial space. Towns with respectable growth rates >(2 and 3% average annualized rates of growth) can sometimes estimate future demand for commercial space by finding the ratio between total population change and new commercial square footage over the past 5 to 10 years.

Usually, it will be necessary to use a common sense approach for these estimates. Some common sense methods for estimating future commercial and office space are provided below. Generally, all businesses, motels and offices should be included. It is important to remember that estimates must include total space, not just the building area. Parking space and the remaining open space within individual lots are important as well.

Example 1: Estimate the current amount of space in square feet used by commercial businesses and offices within your community. Find the ratio of the current population to the current square footage – in other words, the square footage per person. Assume that the need for new space per person will increase at the same ratio throughout your planning time period. If the current ratio is for example 480 square feet per person, and the total expected number of additional people by the year 2020 is 840, then the need for new commercial space will be 840 x 480 = approximately 403,200 square feet.

Example 2: Estimate the amount of new commercial space built or converted outside the central business district of your community during the past 20 years. Assume that approximately half the same amount of space must be made available over the next 10 years.

Example 3: Ask the experts – the people who operate the businesses within your community. Use your local chamber of commerce or similar organizations, or survey all the businesses in your community about plans for expansion within the next 5 to 10 years.

Example 4: If your community has accurate building permit records, you can construct a trend line or a bar chart showing the amount of new commercial space added over the past two decades.

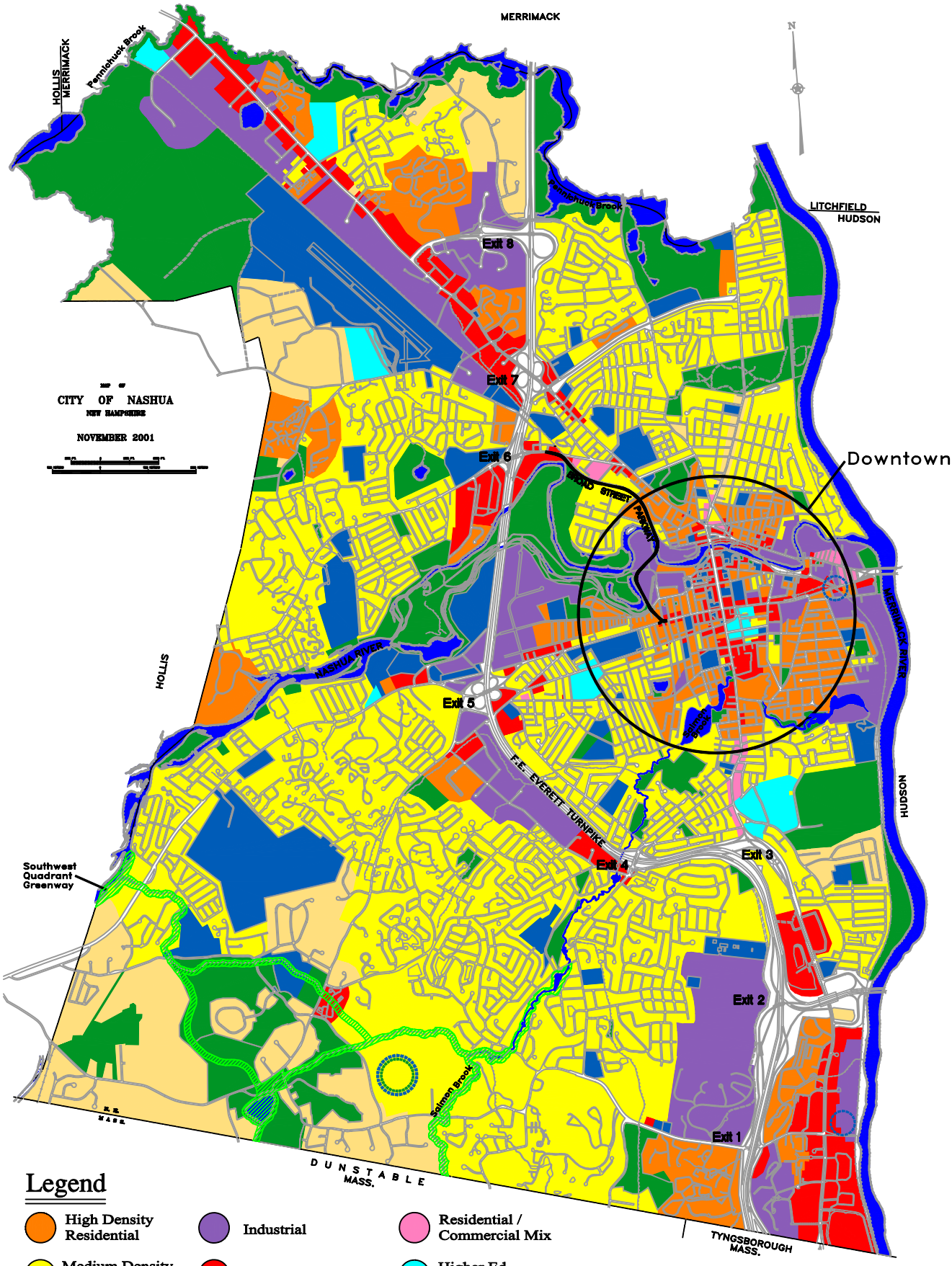
In a typical small town, between 15 to 18 percent of all land (including the structures and the lots) is used for commercial purposes. This formula may serve as a benchmark for the unexceptional, isolated, stable small town with a population base of approximately 2,500 persons. The problem is that small towns exhibit wide variations in their actual uses of commercial space. Many small communities, which serve as trade areas for large regional markets, need large amounts of commercial and professional space.

On the other hand, many small, rural bedroom communities, with their low density housing patterns and traditional village design, have a small ratio of commercial uses to the total town area. This is especially true if the community is not located on a major highway. When considering what might be an appropriate land use ratio for your community, you should refer to the community goals contained within your master plan. Encouraging an appropriate land use balance is an important consideration in developing your future land use map.

You can also estimate the demand for industrial land, using the current ratio of population to industrial acreage to project future needs as your population increases. If your community does not have an area or industrial park set aside for industrial relocation, expansion, or attraction of new firms, then it will be difficult to encourage industrial development. Industrial firms are not willing to relocate or expand unless a community can provide accessible, reasonably priced land with public water and sewer. Planning for industrial development requires a long-range vision. Once investments are made and land is assembled, there is very little opportunity for change. For most master plans, a minimum of 40 contiguous acres should be designated for industrial expansion. There are four essential criteria to keep in mind:

- Ease of access is very important – lack of accessibility is fatal;
- Infrastructure (roads, sewer, water) and public services are crucial to the long-term success of the industrial area;
- New firms in small communities thrive on low-cost buildings and cheap preparation costs. A site that requires even moderate amounts of preparation may pose an obstacle;
- Ask for help from your region or state and visit other communities which have industrial parks.

Helpful Hint: There is no one good way to estimate the demand for future industrial lands. Again ask the experts. A good master plan lets investors and business people know development is desired within the community.



Legend

- High Density Residential
- Medium Density Residential
- Low Density Residential
- Industrial
- Commercial
- Government / Institutional
- Residential / Commercial Mix
- Higher Ed. Medical Arts
- Conservation & Recreation

Low Density Residential: average density less than 1.5 units per acre
Medium Density Residential: average density of 1.5 to 5 units per acre
High Density Residential: average density greater than 5 units per acre

Source: Nashua Regional Planning Commission, 1994
Nashua Planning Department Survey, 1999, 2001

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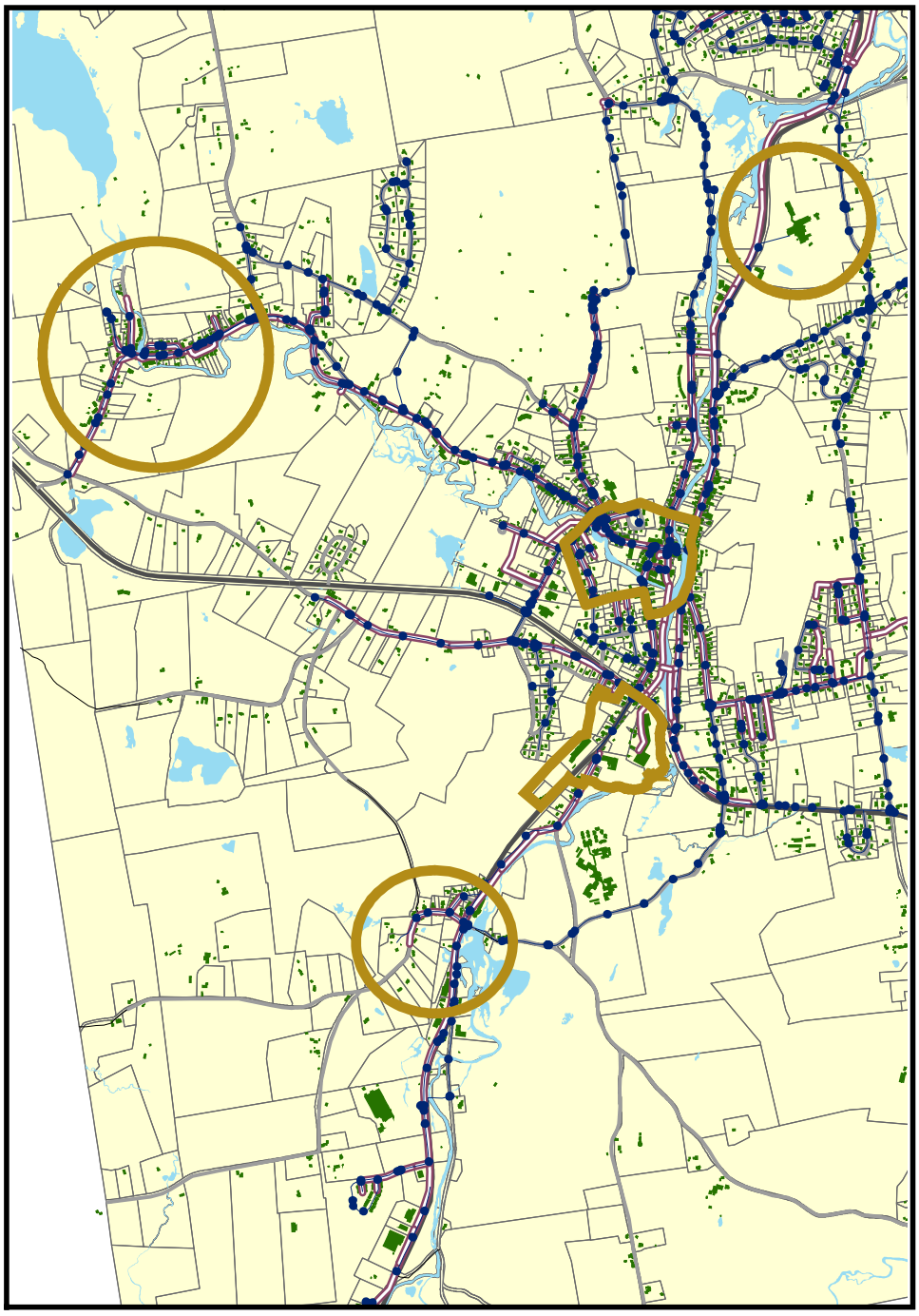
Future Land Use Plan

Nashua Master Plan 2000

Future Land Use Plan
Peterborough, 2003



Encourage "smart growth" through infill and mixed development.

Encourage a new model of traditional neighborhoods.

Encourage new small businesses in defined "village" districts and in the downtown.

Reduce through-traffic in the Downtown and increase pedestrian safety.

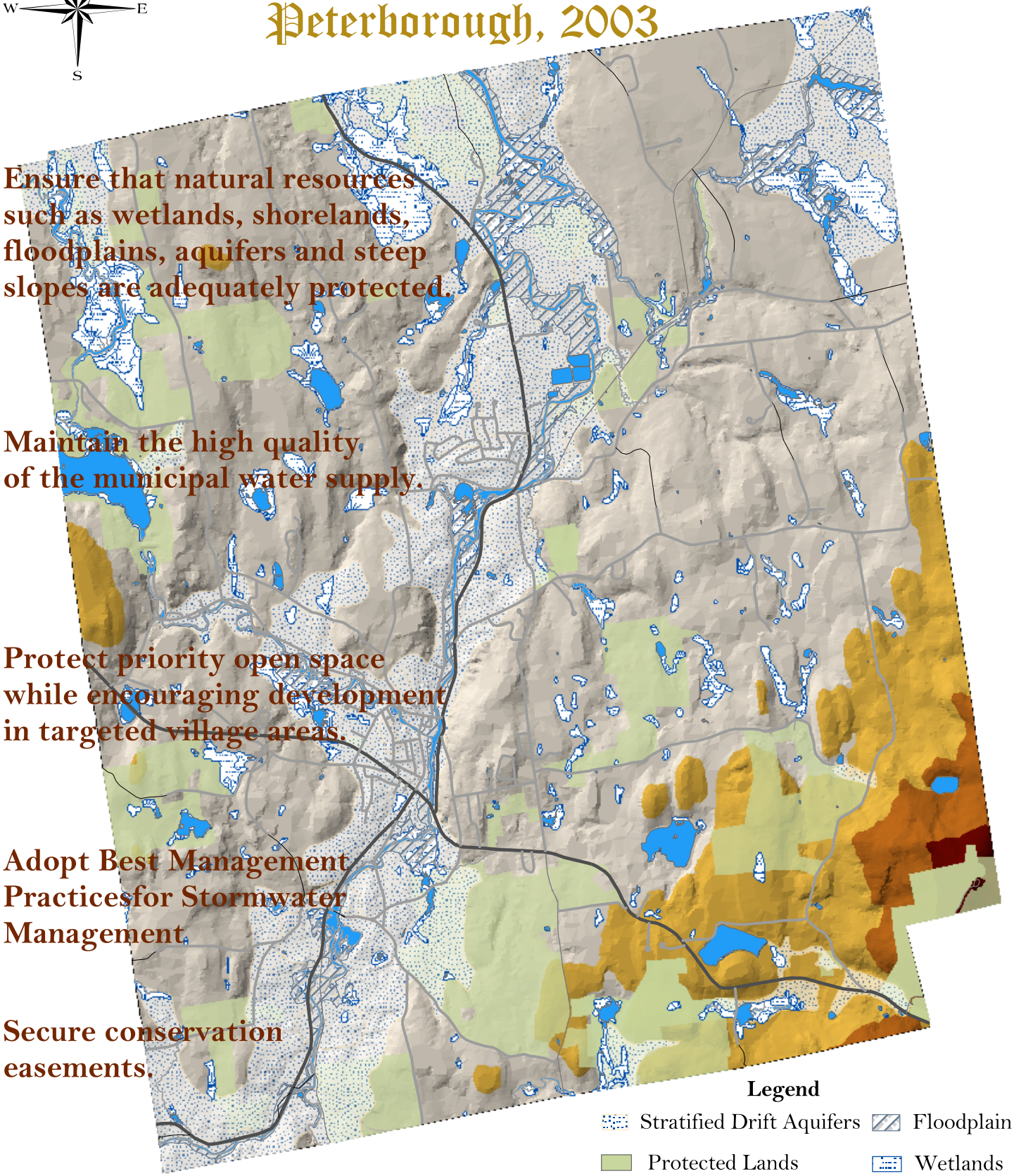
Encourage alternative forms of transportation.

Legend

- Villages/Neighborhoods
- Building Footprints
- Surface Water
- Parcel Lines
- Sewer Lines
- Water Lines

Connect/Enhance the Villages

Future Land Use Plan
Peterborough, 2003



Protect the Natural Environment